Squamous esophageal histology and subsequent risk of squamous cell carcinoma of the esophagus. A prospective follow-up study from Linxian, China

Author: Dawsey SM, Lewin KJ, Wang GQ, Liu FS, et.al.

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Abstract: **BACKGROUND**. Linxian, China, has some of the highest rates of esophageal cancer in the world. Previous authors have proposed that esophagitis, atrophy, and dysplasia may be precursor lesions of esophageal cancer in such high risk populations. **METHODS**. To examine the relationship between squamous esophageal histology and subsequent esophageal cancer in Linxian, the authors prospectively followed 682 participants of a 1987 endoscopic survey for 3.5 years and compared their initial biopsy diagnoses with the occurrence of squamous cell carcinoma during this follow-up period. **RESULTS**. Squamous cell carcinoma of the esophagus was identified in 52 (7.6%) of the participants during the follow-up period. After adjusting for potential confounding factors, relative risks (95% confidence intervals) for squamous cell carcinoma incidence by initial histologic diagnoses were as follows: normal, 1.0 (reference); basal cell hyperplasia, 2.1 (0.4-9.8); mild dysplasia, 2.2 (0.7-7.5); moderate dysplasia, 15.8 (5.9-42.2); severe dysplasia, 72.6 (29.8-176.9); dysplasia not otherwise specified, 22.9 (6.7-78.0); and carcinoma in situ, 62.5 (24.1-161.9). CONCLUSION. In this study, moderate dysplasia, severe dysplasia, and carcinoma in situ were the only histologic lesions associated with a significantly increased risk of developing squamous cell carcinoma of the esophagus within 3.5 years after endoscopy. Increasing grades of dysplasia were associated with increasing risk, but severe dysplasia were associated with increasing risk, but severe dysplasia and carcinoma in situ had similar degrees of risk, findings that suggest a continuous spectrum of esophageal intraepithelial neoplasia, without morphologically distinguishable dysplasia and in situ carcinoma. A longer follow-up will be necessary to fully evaluate the less severe diagnostic categories, which may take more than 3.5 years to affect the occurrence of squamous cell carcinoma in this high risk population.